IAP9 Rec'd PCT/PTO 25 MAY 2006

PCT/IB2004/004115

SEQUENCE LISTING

```
<110> CONSORTIUM NATIONAL DE RECHERCHE EN GENOMIQUE (CNRG)
<120> METHOD FOR HLA TYPING
<130> D21807
<140> EP 03/292 952
<141> 2003-11-27
<160> 243
<170> PatentIn version 3.2
<210> 1
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<220> :
<221> modified base
<222> (20)..(20)
<223> phosphorothioate group
<400> 1
tgctcgccc caggctccca
<210> 2
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified_base
<222> (19)..(19)
 <223> phosphorothicate group
<220>
 <221> modified_base
 <222> (20)..(20)
 <223> phosphorothicate group
 <400> 2
 tgctcgcccc caggctctca
```

20

<220>

```
<210> 3
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
\langle 222 \rangle (19)..(19)
<223> phosphorothicate group
<220>
<221> modified base
\langle 222 \rangle \ (20) \dots (20)
<223> phosphorothioate group
<400> 3
                                                                           20
aggeteceae tecatgaget
<210> 4
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)...(19)
<223> phosphorothicate group
<220>
<221> modified_base
<222> (20)..(20)
<223> phosphorothicate group
<400> 4
                                                                           20
aggeteceam tecatgaggt
<210> 5
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
```

```
<221> modified base
 <222> (19)..(19)
 <223> phosphorothioate group
 <220>
 <221> modified base
 <222> (20) .. (20)
 <223> phosphorothioate group
<400> 5
aggctctcas tccatgaggt
                                                                          20
<210> 6
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
<400> 6
ccactccatg aggtatttca
                                                                        . 20
<210> 7
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
<400> 7
ccactccatg aggtatttct
                                                                         20
```

```
<210> 8
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothicate group
<220>
<221> modified_base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified base
.<222> (20)..(20)
<223> phosphorothicate group
<400> 8
                                                                         20
gcgatgaagc ggggctcctc
<210> 9
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothicate group
<220>
<221> modified_base
<222> (19)..(19)
<223> phosphorothicate group .
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothioate group
<400> 9
                                                                         20
gcgatgaagc ggggctctcc
```

<210> 10 <211> 20 <212> DNA

```
<213> Artificial
· <220>
 <221> Source
 <222> (1)..(20)
 <223> /note="Description of artificial sequence: primer"
 <220>
 <221> modified base
 <222> (18)..(18)
 <223> phosphorothioate group
 <220>
 <221> modified base
 <222> (19)..(19)
 <223> phosphorothioate group
 <220>
 <221> modified base
 <222> (20)..(20)
 <223> phosphorothioate group
 <400> 10
                                                                          20
 gcgatgaagc ggggcttccc
 <210> 11
 <211> 20
 <212> DNA
 <213> Artificial
 <220>
 <221> Source
 <222> (1)..(20)
 <223> /note="Description of artificial sequence: primer"
 <220>
 <221> modified base
 \langle 222 \rangle (18)...(18)
 <223> phosphorothicate group
 <220>
 <221> modified base
 <222> (19)..(19)
 <223> phosphorothioate group
 <220>
 <221> modified base
 <222> (20)..(20)
 <223> phosphorothicate group
 <400> 11
                                                                          20
 gmgatgaagc ggggctcccc
 <210> 12
 <211> 20
 <212> DNA
```

<213> Artificial

<220>

```
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
·<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothicate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
<400> 12
ctsgtcccaa tactccggac
                                                                           20
<210> 13
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothicate group
<220>
<221> modified base
\langle 222 \rangle (19) \dots (1\overline{9})
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
<400> 13
cycgtcccaa tactccggac
                                                                           20
<210> 14
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
```

```
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothioate group
<220>
<221> modified base
\langle 222 \rangle (19) ... (1\overline{9})
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
<400> 14
ctcgtcccaa tactccggct
                                                                           20
<210> 15
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothioate group
<220>
<221> modified_base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
<400> 15
ctsgtcccaa tactcaggcc
                                                                           20
<210> 16
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
```

```
<222> (18)..(18)
 <223> phosphorothioate group
 <220>
 <221> modified base
 \langle 222 \rangle (19)..(19)
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
<400> 16
cyggtcccaa tactccggcc
                                                                          20
<210> 17
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base.
<222> (18)..(18)
<223> phosphorothicate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<220>.
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
<400> 17
cmggtcccaa tactccggcc
                                                                          20
<210> 18
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1) .. (20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothioate group
```

```
<220>
<221> modified base
\langle 222 \rangle (19) ... (1\overline{9})
<223> phosphorothicate group
<220>
<221> modified_base
<222> (20)..(20)
<223> phosphorothioate group
<400> 18
cycgtcccaa tactccggcc
                                                                           20
<210> 19
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<220>.
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
<400> 19
cttcatattc cgtgtctcct
                                                                           20
<210> 20
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
<400> 20
cttcacwttc cgtgtctcct
                                                                           20
```

```
<210> 21
<211> 20
<212> DNA
<213> Artificial
 . -
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
<400> 21
cttcacatkc cgtgtctgca
                                                                        20
<210> 22
<211> 20
<212> DNA
<213> Artificial
<220> •
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
<400> 22
cttcactttc cgtgtgttcc
                                                                        20
<210> 23
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<221> modified_base
```

WO 2005/052189

```
<222> (19)..(19)
 <223> phosphorothioate group
 <220>
 <221> modified base
 <222> (20)..(20)
 <223> phosphorothioate group
<400> 23
cytcacattc cgtgtgttcc
                                                                         20
<210> 24
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
<400> 24
cttcacrttc cgtgtctccc
                                                                        20
<210> 25
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
. <220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothioate group
<400> 25
cttcasttgc cgtgtctccc
                                                                        20.
```

<222> (19)..(19)

```
<210> 26
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified_base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified base
<222> (20) ...(20)
<223> phosphorothicate group
<400> 26
                                                                         20
cttcagttkc cgtgtctccc
<210> 27
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothioate group
<400> 27
                                                                         20
attgggaccg gaacacacgg"
<210> 28
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
```

```
PCT/IB2004/004115
     WO 2005/052189
                                        13/104
<223> phosphorothicate group
<220>
<221> modified_base
<222> (20) . (20)
<223> phosphorothicate group
<400> 28
attgggacct gcagacacgg
                                                                        20
<210> 29
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothioate group
<400> 29
attgggacsa ggagacacgg
                                                                        20.
<210> 30
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothioate group
<400> 30
attgggacsg ggagacacgg
                                                                        20
<210> 31
```

<211> 20

WO 2005/052189 14/104 <212> DNA <213> Artificial <220> <221> Source <222> (1)..(20) <223> /note="Description of artificial sequence: primer" <220> <221> modified base <222> (19)..(19) <223> phosphorothicate group <220> <221> modified base · <222> (20)..(20) <223> phosphorothicate group <400> 31 20 attgggacsa ggagacaggg <210> 32 <211> 18 <212> DNA <213> Artificial <220> <221> Source <222> (1)..(18) <223> /note="Description of artificial sequence: primer" <220> <221> modified base <222> (17)..(17) <223> phosphorothioate group <220> <221> modified base <222> (18)..(18) <223> phosphorothioate group <400> 32 18 ctgtgagtgg gccttcat <210> 33 <211> 18 <212> DNA <213> Artificial <220>

<221> Source <222> (1)..(18) <223> /note="Description of artificial sequence: primer" <220> <221> modified_base <222> (17)..(17) <223> phosphorothicate group

```
<220>
  <221> modified base
  \langle 222 \rangle (18)..(18)
  <223> phosphorothicate group
  <400> 33
 ctgtgactgg gccytcac
                                                                            18
 <210> 34
  <211> 18
  <212> DNA
  <213> Artificial
 <220>
 <221> Source
 <222> (1)..(18)
 <223> /note="Description of artificial sequence: primer"
 <220>
 <221> modified_base
 <222> (17)..(17)
. <223> phosphorothioate group
 <220>
 <221> modified base
 \langle 222 \rangle (18)..(18)
 <223> phosphorothicate group
 <400> 34
 ctgtgagtgg sccttcac
                                                                            18
 <210> 35
 <211> 20
 <212> DNA
 <213> Artificial
 <220>
 <221> Source
 <222> (1)..(20)
 <223> /note="Description of artificial sequence: primer"
 <220>
 <221> modified base
 <222> (19)..(19)
 <223> phosphorothioate group
 <220>
 <221> modified base
 <222> (20)..(20)
 <223> phosphorothicate group
 <400> 35
                                                                            20
 acacggaatg tgargggcca
 <210> 36
 <211> 20
 <212> DNA
 <213> Artificial
```

```
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
<400> 36
acasggaaag tgaaggccca
                                                                         20
<210> 37
<211> 20 -
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified_base
<222> (20)..(20)
<223> phosphorothioate group
<400> 37
acacggcawg tgaaggccca
                                                                         20
<210> 38
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified_base
```

<222> (20)..(20)

```
<223> phosphorothicate group
<400> 38
acacggaacg tgaaggccca
                                                                         20
<210> 39
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19) .. (19)
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
<400> 39
acacggaatr tgaaggccca
                                                                        20
<210> 40
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothicate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothioate group
<400> 40
tgaaggccca ctcacagagt
                                                                        20
```

```
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified_base
<222> (18)..(18)
<223> phosphorothicate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified_base
<222> (20)..(20)
<223> phosphorothicate group
<400> 41
                                                                           20
tgaaggccca ctcacaggct
<210> 42
<211> 20
 <212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothicate group
<220>
 <221> modified base
 \langle 222 \rangle (19)..(1\overline{9})
<223> phosphorothioate group
<220>
<221> modified base
 <222> (20)..(20).
 <223> phosphorothicate group
 <400> 42
                                                                           20
 tgaaggscca ctcacagatt
```

<210> 43

<211> 20

<212> DNA

<213> Artificial

<220>

<221> Source

```
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothicate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified_base
<222> (20)..(20)
<223> phosphorothicate group
<400> 43
                                                                        20
tgarggccca gtcacagact
<210> 44
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothicate group
<220>
<221> modified_base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified_base
<222> (20)..(20)
<223> phosphorothicate group
<400> 44
                                                                         20
tgaaggccca stcacagact
<210> 45
<211> 20
<212> DNA
<213> Artificial
```

<223> phosphorothicate group

```
<222> (1)..(20)
 <223> /note="Description of artificial sequence: primer"
 <220>.
<221> modified base
 <222> (19)..(19)
 <223> phosphorothioate group
<220>
<221> modified base
 \langle 222 \rangle (20)..(2\overline{0})
 <223> phosphorothioate group
<400> 45
tcacaccatc cagataatgc
                                                                           20
<210> 46
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothioate group
<400> 46
tcacaccatc cagmtaatgt
                                                                           20
<210> 47
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified base
<222> (20)..(20)
```

<213> Artificial

```
<400> 47
tcacaccstc cagaggatgt
                                                                              20
<210> 48
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified_base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
<400> 48
tcacaccvtc cagatgatgt
                                                                             20
<210> 49
<211> 19
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(19)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
\langle 222 \rangle (17) ... (17)
<223> phosphorothicate group
<220>
<221> modified_base
<222> (18)..(18)
<223> phosphorothicate group
<220>
<221> modified_base
\langle 222 \rangle (19) \dots (1\overline{9})
<223> phosphorothicate group
<400> 49
gctggtaccc gcggaggag
                                                                             19
<210> 50
<211> 19
<212> DNA
```

```
<220>
 <221> Source
 <222> (1)..(19)
 <223> /note="Description of artificial sequence: primer"
 <220>
 <221> modified base
 \langle 222 \rangle (17)...(17)
 <223> phosphorothicate group
 <220>
 <221> modified base
 <222> (18)..(18)
 <223> phosphorothicate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<400> 50
gccggtaccc gcggagtaa
                                                                              19
<210> 51
<211> 19
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(19)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (17)..(17)
<223> phosphorothicate group
<220>
<221> modified base
<222> (18)..(1<math>\overline{8})
<223> phosphorothicate group
<220>
<221> modified base
\langle 222 \rangle (19)..(19)
<223> phosphorothicate group
<400> 51
ggtggtaccc gygcaggaa
                                                                             19
<210> 52
<211> 19
<212> DNA
<213> Artificial
<220>
<221> Source
```

```
<222> (1)..(19)
<223> /note="Description of artificial sequence: primer"
<221> modified base
<222> (17)..(17)
<223> phosphorothicate group
<220>
<221> modified_base
<222> (18)..(18)
<223> phosphorothicate group
<220>
<221> modified base
\langle 222 \rangle (19)..(19)
<223> phosphorothicate group
<400> 52
                                                                          19
ggtggtaccc gcagaggaa
<210> 53
<211> 19
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(19)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
\langle 222 \rangle (17) ... (17)
<223> phosphorothicate group
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothioate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<400> 53
                                                                          19
gttcataccc gcggaggaa
<210> 54
<211> 19
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(19)
<223> /note="Description of artificial sequence: primer"
```

```
<220>
<221> modified_base
<222> (17) ... (17)
<223> phosphorothicate group
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothicate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<400> 54
                                                                         19
gstggtaccc gcggaggaa
<210> 55
<211> 19
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(19)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (17)..(17)
<223> phosphorothicate group
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothioate group
<220>
<221> modified_base
<222> (19)..(19)
<223> phosphorothicate group
<400> 55
                                                                         19
gccggtaccc gcggaggaa
<210> 56
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
· <222> (1) .. (20)
<223> /note="Description of artificial sequence: primer"
<220>
```

<221> modified base

```
<222> (19)..(19)
 <223> phosphorothioate group
 <221> modified base
 <222> (20) .. (20)
 <223> phosphorothioate group
 <400> 56
                                                                          20
 cgcttcctcc gcgggtatga
 <210> 57
 <211> 20
 <212> DNA
 <213> Artificial
 <220>
 <221> Source
 <222> (1)..(20)
 <223> /note="Description of artificial sequence: primer"
 <220>
 <221> modified base
 <222> (19)..(19)
 <223> phosphorothicate group
 <220>
 <221> modified_base
 <222> (20) .. (20)
 <223> phosphorothicate group
 <400> 57
                                                                          20
 cgcttcctct gcgggtacca
 <210> 58
 <211> 20
 <212> DNA
 <213> Artificial
 <220>
 <221> Source
 <222> (1)..(20)
 <223> /note="Description of artificial sequence: primer".
 <220>
 <221> modified base
 <222> (19)..(19)
 <223> phosphorothioate group
 <220>
 <221> modified base
 <222> (20)..(20)
 <223> phosphorothioate group
 <400> 58
                                                                          20
 cgcttcctgc gcgggtacca
```

<210> 59

```
26/104
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220> .
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified_base
<222> (20) . . (20)
<223> phosphorothicate group
<400> 59
cgcttcctcc acgggtacca
                                                                         20
<210> 60
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothioate group
<400> 60
                                                                         20
cgmttcctcc gcgggtacca
<210> 61
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
```

<220> <221> modified_base <222> (19)..(19) <223> phosphorothicate group

<211> 20 <212> DNA

```
<220>
 <221> modified base
 <222> (20)..(20)
 <223> phosphorothicate group
 <400> 61
 cgcctcctcc gcgggtacca
                                                                         20
 <210> 62
 <211> 20
 <212> DNA
 <213> Artificial
 <220>
 <221> Source
 <222> (1) .: (20)
 <223> /note="Description of artificial sequence: primer"
 <220>
 <221> modified base
 <222> (19)..(19)
 <223> phosphorothicate group
<220>
<221> modified_base
<222> (20)..(20)
<223> phosphorothicate group
<400> 62
cacttectee gegggtaceg
                                                                         20
<210> 63
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
<400> 63
cgcttmctcc gcgggtaccg
                                                                        20
<210> 64
```

```
<213> Artificial
 <220>
 <221> Source
 <222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified_base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified base
\langle 222 \rangle (20)..(2\overline{0})
<223> phosphorothioate group
<400> 64
gtccaagagc gcaggtcttc
                                                                           20
<210> 65
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified_base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
<400> 65
gtccaagagc gcaggtcctc
                                                                           20
<210> 66
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
```

<220>

20

20

```
<221> modified_base
<222> (20)..(20)
<223> phosphorothioate group
<400> 66
gtccaggagc tcaggtcctc
<210> 67
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothicate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothioate group
<400> 67
ggccgyctcc cacttgtgct
<210> 68
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothioate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
```

```
<400> 68
ggcygcctcc cacttgcgct
                                                                          20
<210> 69
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified_base
<222> (18)..(18)
<223> phosphorothioate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothioate group
<400> 69
                                                                          20
cggagtctcc cacttgcgct
<210> 70
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
\langle 222 \rangle (18)..(18)
<223> phosphorothioate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothioate group
<400> 70
ggccgcctce cacttgcgcc
                                                                          20
```

```
<210> 71
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
\langle 222 \rangle (19)...(19)
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothioate group
<400> 71
agtgggagac tccgcccatg
                                                                         20
<210> 72
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified_base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
<400> 72
caagtgggag gcggyccatg
                                                                         20
<210> 73
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
```

```
<221> modified base
 <222> (19)..(19)
 <223>. phosphorothioate group
 <220>
 <221> modified base
 <222> (20)..(20)
 <223> phosphorothicate group
· <400> 73
caagtgggag rcggcccatg
                                                                         20
<210> 74
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
<400> 74
caagtgggag gcggcccttg
                                                                         20
<210> 75
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothioate group
<400> 75
caagtgggag gcggcccgtt
                                                                        20
```

```
<210> 76
 <211> 20
 <212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified_base
<222> (19)..(1<del>9</del>)
<223> phosphorothicate group
<220>
<221> modified base
\langle 222 \rangle (20)...(20)
<223> phosphorothicate group
<400> 76
caagtgggag gcggcccgtc
                                                                           20
<210> 77
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified_base
<222> (20)..(20)
<223> phosphorothicate group
<400> 77
caagtgggag gcggccmgtg
                                                                           20
<210> 78
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified_base
<222> (19)..(19)
```

```
<223> phosphorothioate group
 <220>
 <221> modified base
 \langle 222 \rangle (20)..(2\overline{0})
 <223> phosphorothicate group
 <400> 78
 caagtgggag gcrgcccgtg
                                                                            20
 <210> 79
 <211> 19
 <212> DNA
 <213> Artificial
 <220>
 <221>.Source
 <222> (1)..(19)
 <223> /note="Description of artificial sequence: primer"
 <220>
 <221> modified base
 <222> (18)..(18)
 <223> phosphorothioate group
 <220>
 <221> modified_base
 <222> (19)..(19)
 <223> phosphorothicate group
<400> 79
 gcccrtgagg cggagcagc
                                                                           19
 <210> 80
 <211> 19
 <212> DNA
 <213> Artificial
 <220>
 <221> Source
 <222> (1)..(19)
 <223> /note="Description of artificial sequence: primer"
 <220>
 <221> modified_base
 <222> (18)..(18)
 <223> phosphorothicate group
 <220>
 <221> modified base
 <222> (19)..(19)
 <223> phosphorothioate group
<400> 80
 gyccatgcgg cggagcagc
                                                                           19
```

<210> 81 <211> 19

```
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(19)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothicate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<400> 81
gcccgtcggg cggagcagc
                                                                        19
<210> 82
<211> 19
<212> DNA
<213> Artificial .
<220> .
<221> Source
<222> (1)..(19)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothicate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<400> 82
gcccatgtgg cggagcagc
                                                                        19
<210> 83
<211> 19
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(19)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothicate group
```

```
<220>
<221> modified_base
\langle 222 \rangle (19) ... (1\overline{9})
<223> phosphorothicate group
<400> 83
gtccatgcgg cggagcagt
                                                                            19
<210> 84
<211> 19
<212> DNA
<213> Artificial
<22.0>
<221> Source
<222> (1)..(19)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothioate group
<220>
<221> modified base
\langle 222 \rangle (19) ... (19)
<223> phosphorothioate group
<400> 84
                                                                            19
gcccgtyggg cggagcagt
<210> 85
<211> 19
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(19)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothioate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<400> 85
gcccatgagg cggagcagt
                                                                            19
<210> 86
<211> 19
<212> DNA
<213> Artificial
```

19 .

```
<220>
<221> Source
<222> (1)..(19)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified_base
<222> (18)..(18)
<223> phosphorothioate group
<220>
<221> modified_base
<222> (19)..(19)
<223> phosphorothicate group
<400> 86
gcccwtgtgg cggagcagt
<210> 87
<211> 19
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(19)
<223> /note="Description of artificial sequence: primer"
<221> modified base.
<222> (18)..(18)
<223> phosphorothioate group
<220>
<221> modified base
\langle 222 \rangle (19)...(19)
<223> phosphorothioate group
<400> 87 .
gccmgtgtgg cggagcagt
<210> 88
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<220>
```

```
<221> modified base
 <222> (20)..(20)
 <223> phosphorothicate group
<400> 88
gcggagccac tccacgcact
                                                                           20
<210> 89
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group .
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
<400> 89
gcggagcccg tccacgcact ...
                                                                          20
<210> 90
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
\langle 222 \rangle (19)...(19)
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothioate group
<400> 90
gcggagccac tccacgcaca
                                                                          20
<210> 91
<211> 20
<212> DNA
<213> Artificial
```

```
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified base
<222> (20) ... (20)
<223> phosphorothioate group
<400> 91
                                                                         20
gcggagcccg tccactcacg
<210> 92
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified base
<222> (20)..(20) ·
<223> phosphorothioate group
<400> 92
gcggagccag. tccacgcacg
                                                                         20
<210> 93
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
\langle 222 \rangle (19)..(19)
<223> phosphorothicate group
<220>
<221> modified_base
<222> (20)..(20)
```

```
<223> phosphorothicate group
 <400> 93
 gcggagccmg tccacgcacg
                                                                           20
<210> 94
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified_base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group.
<400> 94
geggageeae tecaegeace
                                                                           20
<210> 95
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified_base
\langle 222 \rangle (20)..(2\overline{0})
<223> phosphorothicate group
<400> 95
gcggagcccg tccacgcacc
                                                                           20
<210> 96
<211> 20
<212> DNA
<213> Artificial .
<220>
<221> Source
```

```
<222> (1)..(20)
  <223> /note="Description of artificial sequence: primer"
  <220>
  <221> modified base
  <222> (18)..(18)
  <223> phosphorothioate group
 <220>
 <221> modified base
 \langle 222 \rangle (19) ... (19)
 <223> phosphorothioate group
 <220>
 <221> modified base
 <222> (20)..(20)
 <223> phosphorothioate group
 <400> 96
                                                                            20
 tggagggcck gtgcgtggag
 <210> 97
 <211> 20
 <212> DNA
 <213> Artificial
 <220>
 <221> Source
 <222> (1)..(20)
 <223> /note="Description of artificial sequence: primer"
 <220>
 <221> modified base
 <222> (18)..(18)
 <223> phosphorothioate group
 <220>
<221> modified base
 <222> (19)..(19)
 <223> phosphorothicate group
 <220>
 <221> modified base
 \langle 222 \rangle (20)...(20)
 <223> phosphorothioate group
 <400> 97
 tggaggyga gtgcgtggag
                                                                            20
 <210> 98
 <211> 20
 <212> DNA
 <213> Artificial
 <220>
 <221> Source
 <222> (1)..(20)
  <223> /note="Description of artificial sequence: primer"
```

```
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothioate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group .
<400> 98
tgsaggccg gtgcgtggag
                                                                         20
<210> 99
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothioate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
<400> 99
tggatgscac gtgcgtggag
                                                                         20
<210> 100
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified_base
\langle 222 \rangle (18)..(18)
```

```
<223> phosphorothioate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group .
<220>
<221> modified_base
<222> (20)..(20)
<223> phosphorothioate group
<400> 100
tggagggcac stgcgtggag
                                                                             20
<210> 101
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothicate group
<220>
<221> modified base
\langle 222 \rangle (19) ... (1\overline{9})
<223> phosphorothicate group
<220>
<221> modified base
\langle 222 \rangle (20) \dots (20)
<223> phosphorothicate group
<400> 101.
                                                                            20
tggaggcac gtgmgtggac
<210> 102
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothioate group
```

<220>

```
<221> modified base
  <222> (19)..(19)
 <223> phosphorothicate group
 <220>
 <221> modified base
 <222> (20)..(20)
 <223> phosphorothicate group
 <400> 102
 tggaggcyg gtgcgtggac
                                                                         20
 <210> 103
 <211> 20
 <212> DNA
 <213> Artificial
 <220>
 <221> Source
 <222> (1)..(20)
 <223> /note="Description of artificial sequence: primer"
 <220>
 <221> modified base
 <222> (18)..(18)
 <223> phosphorothioate group
 <220>
 <221> modified_base
 <222> (19)..(19)
 <223> phosphorothicate group
 <220>
 <221> modified base
 <222> (20)..(20)
 <223> phosphorothicate group
<400> 103
 cccactccat gaggcatttc ...
                                                                         20
 <210> 104
 <211> 20
 <212> DNA
 <213> Artificial
 <220>
 <221> Source
 <222> (1)..(20)
 <223> /note="Description of artificial sequence: primer"
 <220>
 <221> modified base
 <222> (18)..(18)
 <223> phosphorothicate group
 <220>
 <221> modified base
 <222> (19)..(19)
 <223> phosphorothicate group
```

20

```
<220>
  <221> modified base
  <222> (20)..(20)
  <223> phosphorothicate group
 <400> 104
 cccactycat gaggtatttc
 <210> 105
 <211> 20
 <212> DNA
 <213> Artificial
 <220>
 <221> Source
 <222> (1)..(20)
 <223> /note="Description of artificial sequence: primer"
 <220>
 <221> modified_base
 <222> (18)..(18)
 <223> phosphorothicate group
 <220>
 <221> modified base
 <222> (19)..(19)
 <223> phosphorothicate group
 <220>
 <221> modified base
 <222> (20)..(20)
 <223> phosphorothicate group
 <400> 105
 cgacgccgcg agtcmgagga
<210> 106
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified_base
<222> (18)..(18)
<223> phosphorothicate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<220> -
<221> modified base
```

20

```
<222> (20)..(20)
<223> phosphorothioate group
<400> 106
cgacgccacg agtccgagga
<210> 107
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothioate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothioate group
<400> 107
cgacgccgcg agtccragag
<210> 108
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothioate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
```

```
<400> 108
cgacgccrcg agtccgagag
                                                                         20
<210> 109
<211> 19
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(19)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothioate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<400> 109
gecetectg ctccaecca
                                                                        19
<210> 110
<211> 19
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(19)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothicate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<400> 110
                                                                        19
gcccctcytg ctctatcca
<210> 111
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
```

```
<220>
 <221> modified_base
 <222> (18)..(18)
 <223> phosphorothicate group
 <220>
<221> modified base
 <222> (19)..(19)
 <223> phosphorothicate group
 <220>
 <221> modified base
 <222> (20)..(20)
 <223> phosphorothicate group
 <400> 111
 ggccggagta ttgggacggg
                                                                            20
 <210> 112
 <211> 20
 <212> DNA
 <213> Artificial
 <220>
 <221> Source
 <222> (1)..(20)
 <223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (18)...(18)
<223> phosphorothioate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified base
\langle 222 \rangle (20)..(2\overline{0})
<223> phosphorothioate group
<400> 112
ggccggagta ttgggacgag
                                                                            20
<210> 113
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
```

```
<222> (18)..(18)
 <223> phosphorothioate group
 <220>
 <221> modified base
 <222> (19)..(19)
 <223> phosphorothioate group
 <220>
 <221> modified base
 \langle 222 \rangle (20)...(20)
 <223> phosphorothioate group
 <400> 113
 ggccggagta ttgggacccg
                                                                             20
 <210> 114
 <211> 20
 <212> DNA
 <213> Artificial
 <220>
 <221> Source
 <222> (1)..(20)
 <223> /note="Description of artificial sequence: primer"
 <220>
 <221> modified base
 <222> (18)..(18)
 <223> phosphorothicate group
 <220>
 <221> modified base
 \langle 222 \rangle (19) \dots (1\overline{9})
 <223> phosphorothioate group
 <220>
 <221> modified base
 <222> (20)..(20)
 <223> phosphorothicate group
 <400> 114
 ggccggagta ttgggatcgg
                                                                             20
 <210> 115
 <211> 20
 <212> DNA
<213> Artificial
 <220>
 <221> Source
 <222> (1)..(20)
 <223> /note="Description of artificial sequence: primer"
 <220>
 <221> modified base
 <222> (18)..(18)
 <223> phosphorothioate group
```

```
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified base
\langle 222 \rangle (20) ... (20)
<223> phosphorothioate group
<400> 115
                                                                           20
ggccggagtt ttgggaccgg
<210> 116
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothioate group
<220>
<221> modified base
\langle 222 \rangle (19)..(19)
<223> phosphorothioate group
<220>
<221> modified_base
<222> (20)..(20)
<223> phosphorothioate group
<400> 116
                                                                           20
ggccggagca ttgggaccgg
<210> 117
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified_base
<222> (18)..(18)
<223> phosphorothioate group
<220>
<221> modified_base
```

<222> (19)..(19)

```
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
<400> 117
                                                                       . 20
ggccgggata ttgggaccgg
<210> 118
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothioate group
<220>
<221> modified_base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
<400> 118
ggccrgaata ttgggaccgg
<210> 119
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothicate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
```

<220>

20

```
<221> modified base
\langle 222 \rangle (20) ... (20)
<223> phosphorothicate group
<400> 119
                                                                           20
ggcgggmgta ttgggaccgg
<210> 120
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothioate group
<220>
<221> modified base
\langle 222 \rangle (19)...(1\overline{9})
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
<400> 120
                                                                           20
ggccttagta ttgggaccgg
<210> 121
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified_base
<222> (20)..(20)
<223> phosphorothicate group
<400> 121
                                                                            20
ggacsgggag acacggaaca
```

```
<210> 122
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
<400> 122
                                                                        20
ggacgrggag acacggaaca
<210> 123
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified_base
<222> (20)..(20)
<223> phosphorothioate group
<400> 123
ggaccggaac acacagaact
                                                                        20
<210> 124
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
```

<222> (19)..(19)

```
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothioate group
<400> 124
                                                                            20
ggaccggaac acacagacct
<210> 125
<211> 20
<212> DNA -
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified_base
\langle 222 \rangle (20) \dots (20)
<223> phosphorothioate group
<400> 125
                                                                            20
ggaccgggag acacagaagt
<210> 126
<211> 20
<212> DNA
<213> Artificial
<220>.
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified_base
\langle 222 \rangle (19) ... (19)
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
<400> 126
                                                                            20
ggaccgggag atacagatct
<210> 127
<211> 20
```

```
. <212> DNA
 <213> Artificial
 <220>
 <221> Source
 <222> (1)..(20)
 <223> /note="Description of artificial sequence: primer"
 <220>
 <221> modified_base
 <222> (19)..(19)
 <223> phosphorothicate group
 <220>
 <221> modified base
 <222> (20) .. (20)
 <223> phosphorothioate group
 <400> 127
                                                                          20
 ggaccgggas acacagatct
 <210> 128
 <211> 20
 <212> DNA
 <213> Artificial
 <220>
 <221> Source
 <222> (1)..(20)
 <223> /note="Description of artificial sequence: primer"
 <220>
 <221> modified base
 <222> (19)..(19)
 <223> phosphorothicate group
 <220>
 <221> modified base
 <222> (20)..(20)
 <223> phosphorothioate group
 <400> 128
                                                                          20
 ggaccgggac acacagatct
 <210> 129
 <211> 20
 <212> DNA
 <213> Artificial
 <220>
 <221> Source
 <222> (1)..(20)
 <223> /note="Description of artificial sequence: primer"
 <220>
 <221> modified base
 <222> (19)..(19)
  <223> phosphorothioate group
```

19

```
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothioate group
<400> 129
ggaccsggag acacagatct
<210> 130
<211> 19.
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(19)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (17)..(17)
<223> phosphorothicate group
<220>
<221> modified_base
<222> (18)..(18)
<223> phosphorothicate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<400> 130
caagaccaac acacaggct
<210> 131
<211> 19
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(19)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (17)..(17)
<223> phosphorothioate group
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothicate group
<220>
<221> modified base
<222> (19)..(19)
```

```
<223> phosphorothicate group
 <400> 131
 caagscccag gcacaggct
                                                                           19
 <210> 132
 <211> 19
 <212> DNA
 <213> Artificial
 <220>
 <221> Source
 <222> (1)..(19)
 <223> /note="Description of artificial sequence: primer"
 <220>
 <221> modified base
 <222> (17)..(17)
 <223> phosphorothicate group
 <220>
 <221> modified base
 \langle 222 \rangle (18)...(18)
 <223> phosphorothioate group
 <220>
 <221> modified base
 <222> (19)..(19)
 <223> phosphorothicate group
 <400> 132
                                                                          19
 caagaccaac acacggact
 <210> 133
 <211> 19
 <212> DNA
<213> Artificial
 <220>
 <221> Source
 <222> (1)..(19)
 <223> /note="Description of artificial sequence: primer"
 <220>
 <221> modified base
 <222> (17)..(17)
 <223> phosphorothicate group
 <220>
 <221> modified base
 <222> (18)..(18)
 <223> phosphorothioate group
 <220>
 <221> modified base
 <222> (19)..(19)
<223> phosphorothioate group
 <400> 133
```

caagsgccag gcacagact

```
gaaggeetee gegeagaet
                                                                           19
<210> 134
<211> 19
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(19)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
\langle 222 \rangle (17)...(1\overline{7})
<223> phosphorothicate group
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothicate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<400> 134
caaggccmag gcacagact
                                                                           19
<210> 135
<211> 19
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(19)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (17)..(17)
<223> phosphorothioate group
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothicate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<400> 135
```

```
<210> 136
<211> 19
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(19)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified_base
<222> (17)..(17)
<223> phosphorothicate group
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothicate group
<220>
<221> modified_base
<222> (19)..(19)
<223> phosphorothioate group
<400> 136
                                                                          19
gaagaccaac acacagact
<210> 137
<211> 19
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(19)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified_base
\langle 222 \rangle (17)...(17)
<223> phosphorothioate group
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothioate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<400> 137
                                                                          19
gcacagactg accgagtgg
```

<210> 138 <211> 19

<212> DNA

<220>

```
<213> Artificial
<220>
<221> Source
<222> (1)..(19)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified_base
<222> (17)..(17)
<223> phosphorothioate group
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothioate group
<220>
<221> modified base
\langle 222 \rangle (19) ... (1\overline{9})
<223> phosphorothicate group
<400> 138
                                                                           19
acacagactt acagagaga
<210> 139
<211> 19
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(19)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (17)..(17)
<223> phosphorothicate group
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothioate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<400> 139
                                                                           19
acacagactt accgagagg
<210> 140
<211> 19
<212> DNA
<213> Artificial
```

```
<221> Source
 <222> (1)..(19)
 <223> /note="Description of artificial sequence: primer"
 <220>
<221> modified base
<222> (17)..(17)
<223> phosphorothicate group
<220>
<221> modified_base
<222> (18)..(18)
<223> phosphorothioate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<400> 140
                                                                           19
rcacagactg accgagagg
<210> 141
<211> 19
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(19)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified_base
\langle 222 \rangle (17)...(1\overline{7})
<223> phosphorothicate group
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothicate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<400> 141
                                                                           19
gcacagactg gccgagtga
<210> 142
<211> 19
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(19)
<223> /note="Description of artificial sequence: primer"
```

```
<220>
<221> modified_base
<222> (17)..(17)
<223> phosphorothicate group
<220>
<221> modified_base
<222> (18)..(18)
<223> phosphorothioate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<400> 142
acacagactt accgagtga
                                                                        19
<210> 143
<211> 19
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(19)
<223> /note="Description of artificial sequence: primer"
<221> modified base
<222> (17)..(17)
<223> phosphorothicate group
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothioate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<400> 143
rcacagactg accgagtga
                                                                        19
<210> 144
<211> 19
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(19)
<223> /note="Description of artificial sequence: primer"
<221> modified base
```

```
<222> (17)..(17)
<223> phosphorothioate group
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothicate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<400> 144
acacaggctg accgagaga
                                                                        19 -
<210> 145
<211> 19
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(19)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (17)..(17)
<223> phosphorothicate group
<220>
<221> modified base
<222> (18) ... (18)
<223> phosphorothicate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<400> 145
rcacagactg accgagaga
                                                                        19
<210> 146
<211> 19
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(19)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (17)..(17)
<223> phosphorothioate group
```

```
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothioate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<400> 146
                                                                         19
gcrcagactt accgagaga
<210> 147
<211> 19
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(19)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (17)..(17)
<223> phosphorothioate group
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothioate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<400> 147
                                                                         19
acacrgactt accgagaga
<210> 148
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothioate group
<220>
<221> modified base
```

<222> (19)..(19)

<223> phosphorothioate group <220> <221> modified_base

<222> (20)..(20) <223> phosphorothicate group

<400> 148
coggeteteae accetecaea

egggteteae accetecaea 20

<210> 149 <211> 20

<212> DNA

<213> Artificial

<220>

<221> Source

<222> (1)..(20)

<223> /note="Description of artificial sequence: primer"

<220>

<221> modified_base

<222> (18)..(18)

<223> phosphorothioate group

<220>

<221> modified base

<222> (19)..(19)

<223> phosphorothicate group

<220>

<221> modified base

<222> (20)..(20)

<223> phosphorothioate group

<400> 149

cgggtctcac aycatccaga

20

<210> 150-

<211> 20

<212> DNA

<213> Artificial

<220>

<221> Source

<222> (1)..(20)

<223> /note="Description of artificial sequence: primer"

<220>

<221> modified base

<222> (18)..(18)

<223> phosphorothicate group

<220>

<221> modified base

<222> (19)..(19)

<223> phosphorothioate group

<220>

20

```
66/104
 <221> modified base
 <222> (20)..(20)
 <223> phosphorothicate group
<400> 150
 cggktctcac accctccaga
 <210> 151
 <211> 20
 <212> DNA
 <213> Artificial
<220>
 <221> Source
 <222> (1)..(20)
 <223> /note="Description of artificial sequence: primer"
 <220>
 <221> modified base
 <222> (18)..(18)
 <223> phosphorothioate group
 <220>
 <221> modified base
 <222> (19)..(19)
 <223> phosphorothioate group
 <220>
 <221> modified base
 \langle 222 \rangle (20)..(20)
 <223> phosphorothicate group
 <400> 151
 cgggtctcac acttggcaga
 <210> 152
 <211> 20
 <212> DNA
 <213> Artificial
 <220>
 <221> Source
 <222> (1)..(20)
 <223> /note="Description of artificial sequence: primer"
 <220>
 <221> modified base
 <222> (18)..(18)
 <223> phosphorothioate group
 <220>
 <221> modified base
 <222> (19)..(19)
 <223> phosphorothioate group
 <220>
 <221> modified base
 <222> (20)..(20)
```

<223> phosphorothioate group

```
<400> 152
cgggtctcac atcatccagg
                                                                        . 20
<210> 153
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified_base
<222> (18)..(18)
<223> phosphorothioate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
<400> 153
cgggtctcac accctccagt
                                                                         20
<210> 154
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothioate group
<400> 154
cccasgtcgc agccgtacat
                                                                        20
<210> 155
<211> 20
<212> DNA
```

```
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19),.(19)
<223> phosphorothioate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothioate group
<400> 155
cccabgtcgc agccatacat
                                                                        20
<210> 156
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothioate group
<400> 156
                                                                        20
cccasgtcgc agccaaacat
<210> 157
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified_base
<222> (19)..(19)
<223> phosphorothicate group
<220>
```

```
<221> modified base
\langle 222 \rangle (20) \dots (20)
<223> phosphorothicate group
<400> 157
cccacgtcgc agccagacat
                                                                             20
<210> 158
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified_base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
<400> 158
cccacgtcgc agccgcacat
                                                                             20
<210> 159
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
\langle 222 \rangle (19)..(1\overline{9})
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothioate group
<400> 159
cccacgtcgc agccttacat
                                                                             20
<210> 160
<211> 20
<212> DNA
<213> Artificial
```

<222> (20)..(20)

```
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothioate group
<400> 160
                                                                        20
cccacgtcgc agccgtacgt
<210> 161
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
<400> 161
tccggccca kgtcgcagcc
                                                                        20
<210> 162
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified_base
```

```
<223> phosphorothioate group
<400> 162
tcgggccca. sgtcgcagcc
                                                                         20
<210> 163
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothioate group
<220>
<221> modified_base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
<400> 163
ggcgcctcct ccgcgggtac
                                                                         20
<210> 164
<211> 20 ·
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified_base
<222> (18)..(18)
<223> phosphorothioate group
<220>
<221> modified base
\langle 222 \rangle (19) ... (19)
<223> phosphorothicate group
<220>
<221> modified_base
<222> (20)..(20)
<223> phosphorothicate group
<400> 164
```

20

20

ggcgcctcct ccscgggcat

```
<210> 165
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothioate group
<220>
<221> modified_base
<222> (19)..(1\overline{9})
<223> phosphorothicate group
<220>
<221> modified_base
<222> (20)..(20)
<223> phosphorothicate group
<400> 165
ggcgcytcct ccgcgggcat
<210> 166
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified_base
<222> (18)..(18)
<223> phosphorothicate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified base .
<222> (20)..(20)
<223> phosphorothicate group
<400> 166
ggcgtctcct ccgcggttat
```

```
<210> 167
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified_base
<222> (18)..(18)
<223> phosphorothioate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified_base
<222> (20)..(20)
<223> phosphorothicate group
<400> 167
                                                                        20
ggcgcctcct ccgcgggtat
<210> 168
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothicate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified_base
<222> (20)..(20)
<223> phosphorothioate group
<400> 168
                                                                        20
tcctccgcgg gtatgaacag
```

<210> 169 <211> 20

<212> DNA

```
<213> Artificial
 <220>
 <221> Source
 <222> (1)..(20)
 <223> /note="Description of artificial sequence: primer"
 <220>
 <221> modified_base
 <222> (18)..(18)
 <223> phosphorothicate group
 <220>
 <221> modified base
 \langle 222 \rangle (19) ... (1\overline{9})
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothioate group
<400> 169
.tcctccacgg gtaccaccag
                                                                            20
<210> 170
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220> -
<221> modified base
<222> (18)..(18)
<223> phosphorothicate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
<400> 170 .
tcctgcgcgg gtaccaccag
                                                                            20
<210> 171
<211> 20
<212> DNA
```

<220>

<213> Artificial

```
<221> Source
 <222> (1)..(20)
 <223> /note="Description of artificial sequence: primer"
 <220>
 <221> modified_base
 <222> (18)..(18)
 <223> phosphorothioate group
 <220>
 <221> modified base
 \langle 222 \rangle (19) ... (1\overline{9})
 <223> phosphorothicate group
 <220>
 <221> modified base
 <222> (20)..(20)
 <223> phosphorothioate group
 <400> 171
 tcctccgcgg gtaccaccag
                                                                           20
 <210> 172
 <211> 20
 <212> DNA
 <213> Artificial
 <220>
 <221> Source
 <222> (1)..(20)
 <223> /note="Description of artificial sequence: primer"
 <220>
 <221> modified base
 <222> (18)..(18)
 <223> phosphorothicate group
 <220>
 <221> modified base
 <222> (19)..(19)
<223> phosphorothicate group
 <220>
 <221> modified base ···
 <222> (20)..(20)
 <223> phosphorothioate group
 <400> 172
 tcctctgcgg gtaccaccag
                                                                           20
 <210> 173
 <211> 20
 <212> DNA
 <213> Artificial
 <220>
 <221> Source
 <222> (1)..(20)
 <223> /note="Description of artificial sequence: primer"
```

<220>

```
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothioate group
<220>
<221> modified base
\langle 222 \rangle (19)..(19)
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothioate group
<400> 173
tcctccgcgg gtaccagcag
                                                                          20
<210> 174
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothioate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified_base
<222> (20)..(20)
<223> phosphorothioate group
<400> 174
tmctccgcgg gtaccggcag
                                                                         20
<210> 175
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
```

WO 2005/052189 77/104 <221> modified base <222> (18) ... (18) <223> phosphorothioate group <220> <221> modified base <222> (19)..(19) <223> phosphorothicate group <220> <221> modified base <222> (20)..(20) <223> phosphorothioate group <400> 175 20 tcctccgcgg gtaccagcgg <210> 176 <211> 20 <212> DNA <213> Artificial <220> <221> Source <222> (1)..(20) <223> /note="Description of artificial sequence: primer" <220> <221> modified base <222> (18)...(18) <223> phosphorothioate group <220> <221> modified_base <222> (19)..(19) <223> phosphorothioate group <220> <221> modified base <222> (20)..(20) <223> phosphorothioate group <400> 176 20 aatccttgcc gtcgtaggct <210> 177

<211> 20 <212> DNA <213> Artificial . <220> <221> Source <222> (1)..(20) <223> /note="Description of artificial sequence: primer" <220> <221> modified_base $\langle 222 \rangle$ (18)..(1 $\overline{8}$)

<220>

```
<223> phosphorothioate group
 <220>
 <221> modified base
 \langle 222 \rangle (19) ... (19)
 <223> phosphorothioate group
<220>
<221> modified base
<222> (20)..(20)
 <223> phosphorothicate group
 <400> 177
aatccttgcc gtcgtaggca
                                                                            20
<210> 178
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothicate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothioate group
<400> 178
aattettgcc gtcgtaggcg
                                                                            20
<210>.179
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
\langle 222 \rangle (18)..(18)
<223> phosphorothioate group
```

```
<221> modified base
<222> (19).. (19).
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
<400> 179
                                                                          20
aatctttgcc gtcgtaggcg
<210> 180
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothioate group
<220>
<221> modified base
\langle 222 \rangle (19)...(1\overline{9})
<223> phosphorothioate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothioate group
<400> 180
                                                                          20
aatccttgcc gtcgyaggcg
<210> 181
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<221> modified base
<222> (20)..(20)
```

```
WO 2005/052189 PCT/IB2004/004115

<223> phosphorothicate group

<400> 181
temttcaggg cgatgtaate 20
```

<210> 182 <211> 20 <212> DNA <213> Artificial <220> <221> Source <222> (1)..(20) <223> /note="Description of artificial sequence: primer" <220> <221> modified base <222> (19)..(19) <223> phosphorothicate group <220> <221> modified base <222> (20)..(20) <223> phosphorothicate group <400> 182

<400> 182 tcgttcaggg cgatgtaatt 20

<210> 183 <211> 20 <212> DNA <213> Artificial

<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"

<220>

<221> modified_base <222> (19)..(19) <223> phosphorothioate group

<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothioate group

<400> 183
caagtgggag gcggcccttg 20

<210> 184 <211> 20 <212> DNA <213> Artificial

<220> <221> Source

WO 2005/052189 81/104 <222> (1)..(20) <223> /note="Description of artificial sequence: primer" <221> modified base $\langle 222 \rangle$ (19)..(1 $\overline{9}$) <223> phosphorothioate group <220> <221> modified base <222> (20) ... (20) <223> phosphorothioate group <400> 184 caagtkggag gcggcccgtg 20 <210> 185 <211> 20 <212> DNA <213> Artificial <220> <221> Source <222> (1)..(20) <<223> /note="Description of artificial sequence: primer" <220> <221> modified_base $\langle 222 \rangle$ (19)...(19) <223> phosphorothicate group <220> <221> modified base <222> (20)..(20) <223> phosphorothioate group <400> 185 20 ggcccgtgyg gcggagcagc <210> 186 <211> 20 <212> DNA <213> Artificial <220> <221> Source <222> (1)..(20) <223> /note="Description of artificial sequence: primer" <220> <221> modified base

<222> (19)..(19)

<221> modified base <222> (20)..(20)

<220>

<223> phosphorothioate group

<223> phosphorothioate group

```
<400> 186
 ggcccgtgtc gcggagcagg
                                                                         20
 <210> 187 .
 <211> 20 '
 <212> DNA
 <213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothioate group
<400> 187
                                                                         20 -
ggcccgtgwg gcggagcagg
<210> 188 .
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothioate group
<400> 188
                                                                         20
ggcccgtgag gcggagcagt
<210> 189
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
```

<223> /note="Description of artificial sequence: primer"

```
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified_base
<222> (20)..(20)
<223> phosphorothioate group
<400> 189
geggagegae tecaegeaet
                                                                        20
<210> 190
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified_base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified_base
<222> (20)..(20)
<223> phosphorothicate group
<400> 190
gcggagccac tccacgcact
                                                                        20
<210> 191
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified_base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothioate group
<400> 191
```

20

gcggagccaa tccacgcact

```
<210> 192
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
\langle 222 \rangle (19)..(19)
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
<400> 192
gcggagccac tccacgcacg
                                                                         20
<210> 193
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220> .
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
<400> 193
gcggagcgac tccrcgcaca
                                                                         20
<210> 194
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
```

```
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothioate group
<400> 194
                                                                         20
gcggagcsac tccacgcaca
<210> 195
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothioate group
<400> 195
                                                                         20
gcggagcccg tccacgcaca
<210> 196
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified_base
<222> (20)..(20)
<223> phosphorothioate group
<400> 196
                                                                         20
ctccaggtay ctgcggagcg
```

```
<210> 197
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothioate group
<400> 197
                                                                         20
ctccaggtrt ctgcggagcc
<210> 198
<211> 19
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(19)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified_base
<222> (18)..(18)
<223> phosphorothicate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<400> 198
acctggagaa cgggaagga
                                                                         19
<210> 199
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
```

```
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified_base
<222> (20)..(20)
<223> phosphorothicate group
<400> 199
cattgaagaa atgacactcc
                                                                         20
<210> 200
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified_base
<222> (20)..(20)
<223> phosphorothicate group
<400> 200
cgttgaagaa atgacactta
                                                                         20
<210> 201
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified_base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
<400> 201
cattgaagaa atgacattca
                                                                         20
```

20

88/104

```
<211> 20
 <212> DNA
 <213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>.
<221> modified base
\langle 222 \rangle \ (19) \dots (1\overline{9})
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothioate group
<400> 202
cattgaagaa wtaacactca
<210> 203
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified_base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothioate group
<400> 203
crttgaagaa atgacactca
                                                                             20
<210> 204
<211> 19
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(19)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
\langle 222 \rangle (18)..(18)
```

<223> phosphorothioate group

```
<220>
 <221> modified base
 <222> (19)..(19)
 <223> phosphorothioate group
 <400> 204
 catctataac caagaggaa
                                                                          19
 <210> 205
 <211> 19
 <212> DNA
 <213> Artificial
 <220>
 <221> Source
 <222> (1)..(19)
 <223> /note="Description of artificial sequence: primer"
 <220>
 <221> modified_base
 <222> (18)..(18)
 <223> phosphorothicate group
 <220>
 <221> modified base
 <222> (19)..(19)
 <223> phosphorothioate group
 <400> 205
                                                                          19
 cttctatcac caagargag
 <210> 206
 <211> 19
 <212> DNA
 <213> Artificial
· <220>
 <221> Source
 <222> (1)..(19)
 <223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
 <222> (18)..(18)
<223> phosphorothioate group
<220>
<221> modified_base
 \langle 222 \rangle (19)..(19)
 <223> phosphorothicate group
 <400> 206
                                                                          19
 cttctataat cargaggag
 <210> 207
 <211> 19
 <212> DNA
```

19

19

90/104

```
<213> Artificial
<220>
<221> Source
<222> (1)..(19)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothioate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<400> 207
cgtccataac caagaggag
<210> 208
<211> 19
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(19)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (18) .. (18)
<223> phosphorothicate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<400> 208
catctataac caagaggag
<210> 209
<211> 19
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(19)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothicate group
```

<220>

```
<221> modified_base
<222> (19)..(19)
<223> phosphorothioate group
<400> 209
                                                                          19
cttccataac crggaggag
<210> 210
<211> 19
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(19)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified_base
<222> (18)..(18)
<223> phosphorothioate group
<220>
<221> modified_base
<222> (19)..(19)
<223> phosphorothicate group
<400> 210
                                                                          19
cttcgataac caggaggag
<210> 211
<211> 19
<212> DNA
<213> Artificial
<220> . . .
<221> Source
<222> (1)..(19)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
 <222> (18)..(18)
<223> phosphorothicate group
<220>
<221> modified_base
<222> (19)..(1\overline{9})
<223> phosphorothioate group
 <400> 211
                                                                          19
cttctataac ctggaggag
 <210> 212
 <211> 20
 <212> DNA
 <213> Artificial
```

```
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothioate group
<400> 212
cgtcgctgtc gaagcgcagg
                                                                         20
<210> 213
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
<400> 213
                                                                         20
cgtcgctgtc gtagcgcgcg
<210> 214
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified base
```

 $\langle 222 \rangle$ (20)...(20)

<221> Source

```
<223> phosphorothioate group
<400> 214
                                                                         20
cgtcgctgtc gaagcgcaag
<210> 215
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified_base
<222> (20)..(20)
<223> phosphorothioate group
<400> 215
                                                                         20
cgtcgctgtc gaagygcacg
<210> 216
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified_base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified_base
<222> (20)..(20)
<223> phosphorothicate group
<400> 216
                                                                         20
cgtcgctgtc gaascgcacg
<210> 217
<211> 20
<212> DNA
<213> Artificial
<220>
```

```
94/104
 <222> (1)..(20)
 <223> /note="Description of artificial sequence: primer"
 <220>
 <221> modified base
 <222> (19)..(19)
 <223> phosphorothioate group
 <220>
 <221> modified base
 <222> (20)..(20)
 <223> phosphorothicate group
 <400> 217
 cgacagcgac gtgggggact
                                                                          20
 <210> 218
 <211> 20
 <212> DNA
 <213> Artificial
 <220>
 <221> Source
 <222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
 <221> modified_base
 <222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
<400> 218
cgacagcgac gtgvgggagt
                                                                         20
<210> 219
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified_base
<222> (20)..(20)
<223> phosphorothioate group
```

4 A

```
<400> 219
ttctggctgt tccagtactg
                                                                         20
<210> 220
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
<400> 220
ttctggctgt tccagtaccc
                                                                         20
<210> 221
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
<400> 221
ttctggctgt tccagtagtc
                                                                        20
<210> 222
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
```

ctggaacagc cagaagaac

```
<220>
<221> modified_base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified_base
<222> (20)..(20)
<223> phosphorothioate group.
<400> 222
                                                                        20
ttctggctgt tccagtrctc
<210> 223
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified_base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified_base
<222> (20)..(20)
<223> phosphorothicate group
<400> 223
                                                                         20
ttcyggctgt tccaggactc
<210> 224
<211> 19
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(19)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothioate group
<220>
<221> modified_base
<222> (19)..(19)
<223> phosphorothioate group
<400> 224
                                                                         19
```

```
<210> 225
<211> 19
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(19)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (18)..(18)
<223> phosphorothioate group
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<400> 225
                                                                        19
ctggaacagc crgaaggac
<210> 226
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified_base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
<400> 226
                                                                        20
gaaggachtc ctggagcagg
<210> 227
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
```

```
<221> modified base
 <222> (19)..(19)
 <223> phosphorothioate group
<220>
<221> modified_base
<222> (20)..(20)
<223> phosphorothicate group
<400> 227
gaaggacatc ctgggagaca
                                                                         20
<210> 228
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
<400> 228
gaaggacate ctggargaca
                                                                         20
<210> 229
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified_base
<222> (20)..(20)
<223> phosphorothicate group
<400> 229
gaaggacytc ctggaagaca
                                                                         20
```

· WO 2005/052189

```
<210> 230
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified_base
\langle 222 \rangle (19)...(19)
<223> phosphorothioate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothioate group
<400> 230
gaaggacatc ctggagcaga
                                                                         20
<210> 231
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothioate group
<400> 231
gaaggachtc ctggagcgga
                                                                         20
<210> 232
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
```

WO 2005/052189 100/104 <223> phosphorothicate group <220> <221> modified base <222> (20)..(20) <223> phosphorothioate group <400> 232 gaaggachtc ctggaagacg 20 <210> 233 <211> 20 <212> DNA <213> Artificial <220> <221> Source <222> (1)..(20) <223> /note="Description of artificial sequence: primer" <220> <221> modified base <222> (19)..(19) <223> phosphorothicate group <220> <221> modified base <222> (20)..(20) <223> phosphorothioate group <400> 233 gtctgcaata ggtgtccacg 20 <210> 234 <211> 20 <212> DNA · <213> Artificial <220> <221> Source <222> (1)..(20) <223> /note="Description of artificial sequence: primer" <220> <221> modified_base <222> (19)..(19) <223> phosphorothioate group <220> <221> modified base <222> (20)..(20) <223> phosphorothicate group

20

<210> 235 <211> 20

<400> 234

gtctgcarta ggcgtccacc

<212> DNA

```
<213> Artificial
 <220>
 <221> Source
 <222> (1)..(20)
 <223> /note="Description of artificial sequence: primer"
 <220>
 <221> modified base
 <222> (19)..(19)
 <223> phosphorothicate group
 <220>
 <221> modified base
 \langle 222 \rangle (20)...(20)
 <223> phosphorothioate group
 <400> 235
 gtctgcagta attgtccacc
                                                                             20
 <210> 236
 <211> 20
 <212> DNA
 <213> Artificial
 <220>
 <221> Source
 <222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified_base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothioate group
<400> 236
gtctgcacac ggtgtccacc
                                                                             20
<210> 237
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
\langle 222 \rangle (19)..(1\overline{9})
<223> phosphorothicate group
```

<212> DNA

<213> Artificial

```
<220>
<221> modified base
\langle 222 \rangle (20) ... (20)
<223> phosphorothicate group
<400> 237
                                                                           20
gtctgcagta ggtgtccacc
<210> 238
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
<400> 238
                                                                            20 -
gtctgcaata ggtgtccacc
<210> 239
<211> 19
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(19)
<223> /note="Description of artificial sequence: primer"
₹220>
<221> modified base
<222> (18)..(18)
<223> phosphorothioate group
<220>
<221> modified base
\langle 222 \rangle (19)..(19)
<223> phosphorothicate group
<400> 239
                                                                            19
tgcagacaca actacsggg
<210> 240
<211> 20
```

```
<220>
<221> Source
<222> .(1) .. (20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified base
<222> (20) .. (20)
<223> phosphorothioate group
<400> 240
                                                                         20
cgctgcactg tgaatctctc
<210> 241
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified_base
<222> (19)..(19)
<223> phosphorothioate group
<220>
<221> modified base
<222> (20)..(20)
<223> phosphorothicate group
<400> 241
                                                                         20
ctctgcactg tgaagctctc
<210> 242
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Source
<222> (1)..(20)
<223> /note="Description of artificial sequence: primer"
<220>
<221> modified base
<222> (19)..(19)
<223> phosphorothicate group
<220>
<221> modified_base
```

• WO 2005/052189 PCT/IB2004/004115

104/104 <222> (20)..(20) <223> phosphorothioate group <400> 242 20 cgctgcacyg tgaagctctc <210> 243 <211> 20 <212> DNA <213> Artificial <220> <221> Source <222> (1)..(20) <223> /note="Description of artificial sequence: primer" <220> <221> modified_base <222> (19)..(19). <223> phosphorothicate group <220> <221> modified_base $\langle 222 \rangle$ (20)..(20) <223> phosphorothicate group <400> 243 2.0 gcggagccac tccacgcagg